

### Pattern Puzzles – Pack 39

**Puzzle 1.** What comes next in the sequence?

2	5	6	16	30	55	104	192	?
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- A) 306    
  B) 351    
  C) 354    
  D) 357

**Puzzle 2.** What number replaces the question mark in the grid?

4	2	10
2	5	18
12	1	?

- A) 36    
  B) 27    
  C) 12    
  D) 37

**Puzzle 3.** What comes next in the sequence?

3	6	2	14	25	44	86	158	?
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- A) 288    
  B) 294    
  C) 291    
  D) 261

**Puzzle 4.** What comes next in the sequence?

7	13	14	14	14	17	20	17	21	21	26	20	?
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- A) 29    
  B) 28    
  C) 23    
  D) 25

**Puzzle 5.** What comes next in the sequence?

5	4	2	13	21	38	74	135	?
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- A) 251    
  B) 249    
  C) 247    
  D) 243

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**Puzzle 6.** What comes next in the sequence?

15	4	9	7	22	8	17	10	29	12	25	13	?
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A) 37	B) 33	C) 16	D) 36
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**Puzzle 7.** What number replaces the question mark in the grid?

3	2	2
2	4	15
5	9	?

A) 6	B) 5	C) 2	D) 4
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**Puzzle 8.** What comes next in the sequence?

6	38	138	372	830	1626	2898	4808	?
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A) 7518	B) 4808	C) 7566	D) 7542
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**Puzzle 9.** What comes next in the sequence?

3	2	2	10	17	32	62	114	?
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A) 211	B) 214	C) 208	D) 212
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**Puzzle 10.** What comes next in the sequence?

6	4	4	15	24	44	84	153	?
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A) 281	B) 280	C) 283	D) 282
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## Answer Key

1. **C) 354**

Rule:  $a(n) = a(n-1)+a(n-2)+a(n-3)+3$ .

2. **A) 36**

Row sums are perfect squares: 16, 25, 49.

3. **C) 291**

Rule:  $a(n) = a(n-1)+a(n-2)+a(n-3)+3$ .

4. **B) 28**

Four interleaved arithmetic series (period 4):

5. **B) 249**

Rule:  $a(n) = a(n-1)+a(n-2)+a(n-3)+2$ .

6. **D) 36**

Four interleaved arithmetic series (period 4):

7. **D) 4**

Column sums are triangular numbers: 10, 15, 21.

8. **D) 7542**

4th differences are all 24 (quartic sequence).

9. **A) 211**

Rule:  $a(n) = a(n-1)+a(n-2)+a(n-3)+3$ .

10. **D) 282**

Rule:  $a(n) = a(n-1)+a(n-2)+a(n-3)+1$ .